

ENGINEERING HERITAGE RECOGNITION PROGRAM

Proposal to Nominate

Fort Phillip Precinct

as an Item of Engineering Heritage Interest

Item Name:	Fort Phillip Precinct		
Other/Former Names:	Wurrane (Eora Aboriginal name); Flagstaff Hill; Windmill Hill		
Locality:	Observatory Hill, Millers Point, Sydney		
Address:	Observatory Hill, Sydney NSW 2000		
Co-ordinates	Lat: -33.85954, Lon: 151.2021664,		
Current Owner:	Museum of Applied Arts & Sciences		
Original Owner:	Eora Aboriginal people, then British Government		
Current use:	Heritage site and museum		
Former use:	Windmill, defence citadel, signal station and observatory.		
Proposed use:	Heritage site and museum		
Item Condition:	Excellent		
Designer:	<ul style="list-style-type: none"> Fort Phillip: Francis Barrallier, acting engineer and artillery officer. Sydney Observatory: Colonial Architect Alexander Dawson 		
Builder:	Fort Phillip: convict labour under Francis Barrallier		
Started:	<ul style="list-style-type: none"> Windmill: 1797 Fort Phillip: 1804 Signal Station: 1825 Observatory: 1857 	Completed:	<ul style="list-style-type: none"> Windmill: 1797 Fort Phillip: 1807 Signal Station: 1825 Observatory 1858
History:	<p>The Fort Phillip precinct contains four historically-significant sites – that of the first windmill, Fort Phillip itself, the Signal Station and Sydney Observatory.</p> <p>The first windmill</p> <p>The early colonial government built the first windmill on Flagstaff Hill (now Observatory Hill) in 1797. It was severely damaged in a violent storm in January 1798, was slowly repaired between 1800 and 1802, and continued to function into the 1840s.</p> <p>Fort Phillip</p> <p>Because he feared an insurrection by Irish political prisoners at Castle Hill and interference by the French, Governor Gidley King ordered construction of a citadel on a hill above The Rocks. The fort was designed by a French-born Ensign of the NSW Corps, Francis Barrallier who was in 1801, appointed acting engineer and artillery officer by Governor King. As an explorer, Barrallier penetrated about a hundred miles (161 km) into the mountains.</p> <p>King's concern about the French was well placed; Matthew Flinders in the <i>Investigator</i> met the French explorer Nicolas Baudin in <i>Le Géographe</i> in</p>		

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1802 at what he named Encounter Bay off the South Australian coast. Although Captain Baudin's goal was scientific exploration, at least two members of his crew, Francois Péron and Louis de Freycinet, were engaged in espionage related to a possible French invasion of British settlements on the south-east coast of Australia, and Péron had identified the Irish prisoners as potential allies.

Fort Phillip was hexagonal with 100 feet (30.5 metre) long sides and embrasures on each of them. A ditch 2.7 metres deep and 3.6 metres wide surrounded the fort, with the earth from the ditch used, along with stone, to build a 9-metre-high rampart, with the three sides facing the town, the harbour and the road to Parramatta. Provision for 20 guns was made, including the guns salvaged from the wrecked HMS *Sirius*.

Construction began in 1804, but work only proceeded spasmodically and by 1807 the project had been abandoned – it was never completed, but the guns remained until the 1820s. By 1821, the fort was storing gunpowder in its magazine which held 200 barrels of gunpowder. In 1839 the storage of gunpowder was transferred to a new magazine on Goat Island.

The Signal Station

In 1808 a flagstaff was erected on Fort Phillip, and in about 1825 the eastern wall of Fort Phillip was converted into a signal station from which flags sent messages to the signal station on South Head and to ships in the Harbour.

The hut that was built for the signalman was replaced in 1847 by the more substantial stone building designed by Colonial Architect Mortimer Lewis; it exists today. This building was the home of successive signal masters and their families until 1939 when the station was closed and the signal mast removed. However, a replica mast was erected in June 2008.

Sydney Observatory

The Sydney Observatory, which includes a time-ball tower, was designed by Colonial Architect Alexander Dawson and opened in 1858. Daily, first at noon and soon after at 1pm the ball would drop to signal the correct time to the city and the harbour, and to enable ships to accurately rate their chronometers. The 'drop' changed to one o'clock to allow the astronomer to observe the transit of the sun across the observatory's meridian at noon, and to thus establish the correct time.

Technological change, the transfer of meteorology to the Commonwealth government and other factors including the adverse effect of ambient light from the city, forced its closure in 1982 as an operating observatory. It is now part of the Museum of Applied Arts & Sciences.

The Observatory is on the State Heritage Register.

Time-Ball Machine

The time ball machinery is housed in the top two levels of the observatory tower. It is now operated by an electric motor but is still engaged manually. It consists of a rack and pinion lifting mechanism with the ball attached at the top, and at the bottom inside a cast iron cylinder, is a rubber piston with bleeder valve to adjust the rate of descent.

At 6 minutes to 1pm the pinion was driven first by hand cranking and later by a motor, and the ball raised 2.7 metres to the top of the mast. At precisely 1pm the time ball was tripped and dropped with the end of the descent being damped when the piston fell onto a pool of soapy water in

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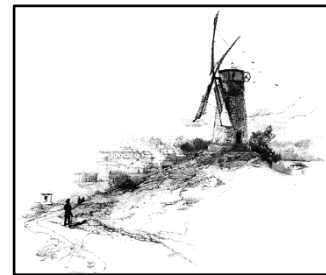
	<p>the bottom of the cylinder.</p> <p>One O'clock Gun On 3 June 1858 Fort Macquarie commenced firing a noon-day gun (later at one o'clock) when the time-ball dropped at the new observatory. Firing of the gun later transferred to Dawes Battery and then to Fort Denison on 9 February 1906. It ceased in February 1942 during World War II, resumed on 9 February 1986 and the tradition continues.</p>
Description:	<p>The Fort Phillip precinct now comprises stone walls on the eastern and north-eastern sides, with the remaining boundary surrounded by a timber fence. It encloses the sandstone Sydney Observatory, a visitors' centre, sandstone astronomer's cottage, and the sandstone signalman's cottage. A replica signal mast is mounted on the eastern rampart.</p>
Significance:	<p>The Fort Phillip precinct is significant:</p> <ul style="list-style-type: none"> • in the history of European settlement in Australia; • in the history of development of the Colony's defences; • in the development of astronomy in Australia; and • in its association with important historical figures – Francis Barrallier, and the first Government Astronomer, Rev. William Scott.
Webpage Summary:	<p>The Fort Phillip precinct contains four historically-significant sites – that of the first windmill, Fort Phillip itself, the Signal Station and Sydney Observatory.</p> <p>The first windmill The early colonial government built the first windmill on Flagstaff Hill (now Observatory Hill) in 1797; it continued to function into the 1840s.</p> <p>Fort Phillip Because he feared an insurrection by Irish political prisoners at Castle Hill and interference by the French, Governor Gidley King ordered construction of a citadel on a hill above The Rocks.</p> <p>Construction began in 1804, but work only proceeded spasmodically, and by 1807 the project had been abandoned, but the guns remained until the 1820s. By 1821, the fort was storing gunpowder in its magazine. In 1839 the storage of gunpowder was transferred to a new magazine on Goat Island.</p> <p>The Signal Station In 1808 a flagstaff was erected on Fort Phillip, and in about 1825 the eastern wall of Fort Phillip was converted into a signal station from which flags sent messages to the signal station on South Head and to ships in the Harbour.</p> <p>The station was closed in 1939 and the signal mast removed. However, a replica mast was erected in June 2008.</p> <p>Sydney Observatory The Sydney Observatory, which includes a time-ball tower was designed by Colonial Architect Alexander Dawson and opened in 1858. Daily, first at noon and soon after at 1pm the ball would drop to signal the correct time to the city and the harbour, and to enable ships to accurately rate their chronometers.</p> <p>Technological change, the transfer of meteorology to the Commonwealth government and other factors including the adverse effect of ambient light from the city, forced its closure in 1982 as an operating observatory. It is now part of the Museum of Applied Arts & Sciences.</p>

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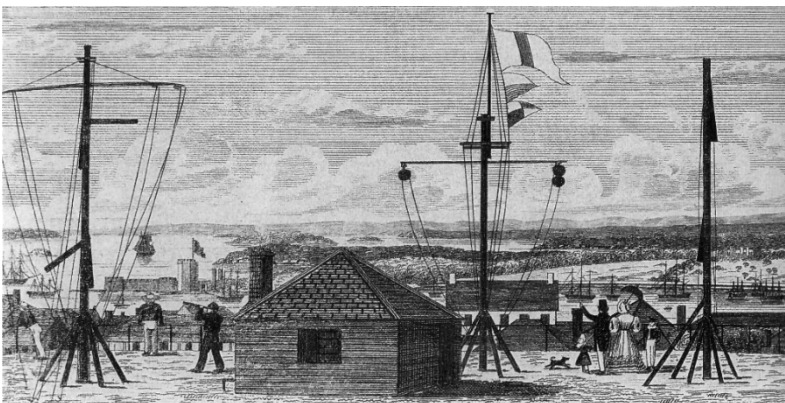
	The Observatory is on the State Heritage Register.		
Engineering Theme:	<ul style="list-style-type: none"> • Defence, Army • Information, Telegraph • Engineering & Technology, Research, Astronomy 		
Heritage Listing:	Sydney Observatory; State Heritage Register, Listing No: 01449		
References/Sources:	<ul style="list-style-type: none"> • Dictionary of Sydney, https://dictionaryofsydney.org/entry/windmills_of_sydney • <i>Exploration or Espionage? Flinders and the French</i>, Bruce Bennett. <i>The Journal of the European Association of Studies on Australia</i>, Vol.2. No.1, 2011 • Hilltop History https://hilltophistory.wordpress.com/ • Australian Dictionary of Biography • NSW State Heritage Register 		
Nominated by:	Michael Clarke		
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EHA Branch:	Sydney	Nomination Date:	18 January 2024



First windmill: 'Sydney Looking South from Flagstaff Hill' c. 1821. *Major James Taylor*



First windmill.
Artist unknown

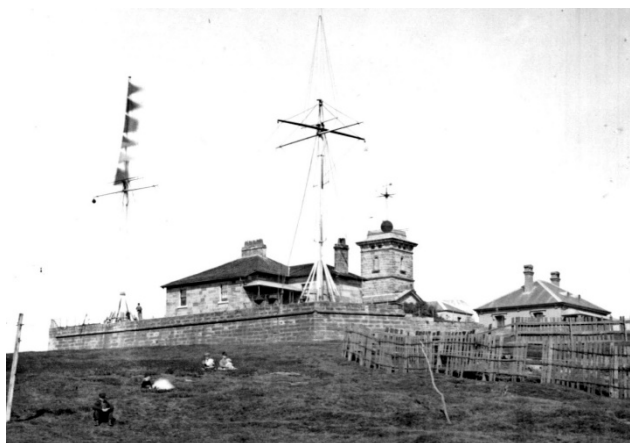


Signal Station: 'Sydney Cove from Fort Phillip'.
John Carmichael 1839



Replica signal mast

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Fort Phillip, signal station & observatory late 1800s



Fort Phillip, signal station & observatory 2006



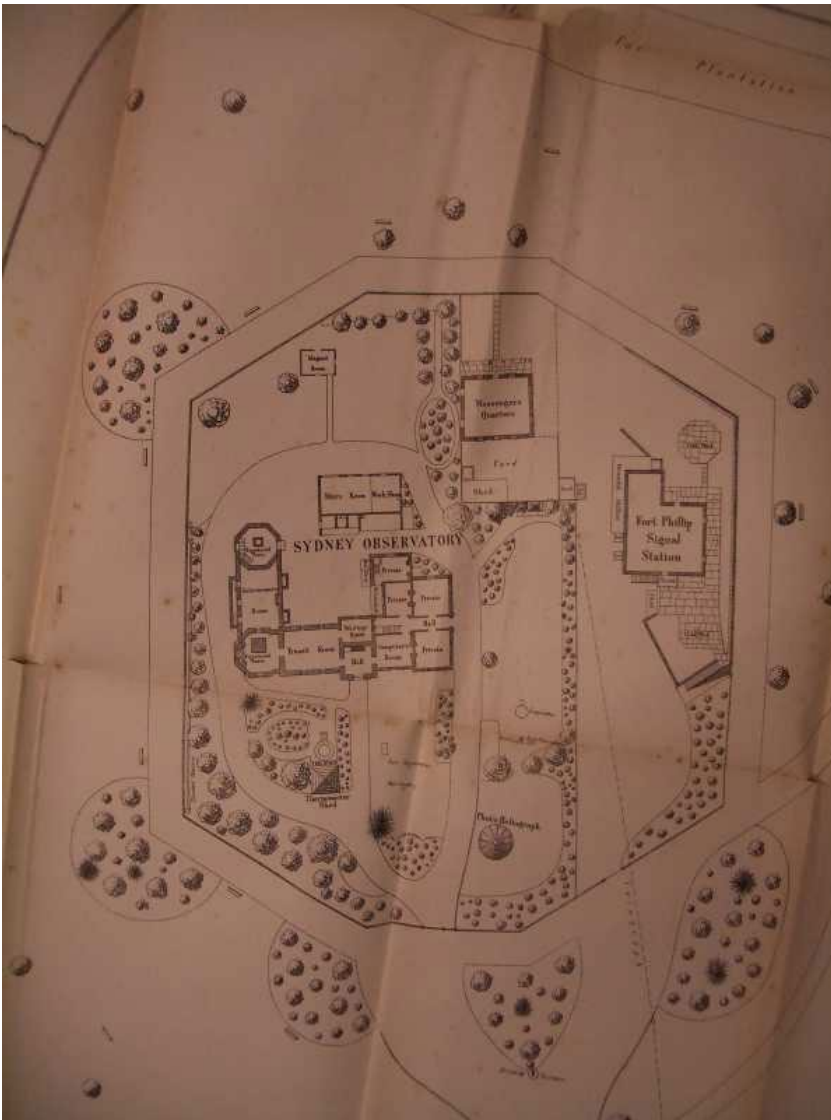
Sydney Observatory c.1860



Time ball platform

Sydney Morning Herald

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Plan showing Fort Phillip, observatory & signal station



Time ball dropping
Powerhouse Museum